Cold Weather in Brazilian Coffee Areas

On July 12th, a strong cold front brought sub-freezing temperatures to much of southern Brazil. High pressure moved in behind the front and was centered over central Parana by the morning of the 13th. As a result, clear skies and calm winds allowed temperatures to drop to near 0EC in some coffee producing areas of northern Parana. In Sao Paulo, stronger winds during the overnight hours caused temperatures to stay well above freezing (5E - 12EC). Temperatures moderated by the 14th as the high moved over the Atlantic Ocean, with minimum temperatures staying above freezing and afternoon temperatures reaching into the 20's EC across Parana and Sao Paulo.

Another strong cold front moved out of Argentina northward across Parana, Sao Paulo, and Minas Gerais during the 15th and 16th. Showers and thunderstorms ahead of the front dropped 2 to 25 mm of rainfall across these areas as the front moved through. Southwesterly winds behind the front ushered in cold air once again from higher latitudes of South America. With clear skies overhead and winds calming, temperatures by the morning of the 17th had dropped to as low as -1EC in the major coffee producing areas in northern Parana (see figure 1). Temperatures as low as -6EC were reported in central Parana (south of the main coffee areas). Near- to sub-freezing readings were reported at a few stations in Sao Paulo, possibly producing frost in some coffee areas. The morning of the 17th was the coldest during the period across Parana and Sao Paulo.

By the 18th, temperatures had begun to modify across northern Parana and interior Sao Paulo, with minimum temperatures staying above freezing. The morning of the 18th, however, was the coldest across southern and central Minas Gerais as the high pressure area moved overhead. There were scattered areas of frost in portions of major coffee areas of Minas Gerais (see figure 1). After the 18th, the high pressure area moved offshore and temperatures moderated across Center-South Brazil.

The frost reportedly had a major impact on coffee in the Brazilian state of Parana (8 percent of national coffee production), raising concerns for next year's flowering potential. In the states of Sao Paulo and Minas Gerais, the impact was less severe. The frost reportedly caused some leaf burn and branch damage in coffee trees.

The last freeze across Center-South Brazil occurred in1994. There were two episodes that year, the coldest from June 25-30 and a less severe one from July 9-12. In comparing the freezes of 1994 and 2000, the 2000 episode was colder from northern Parana southward, while the 1994 episode was colder in the major coffee areas of southwestern Minas Gerais (see figure 2). The areal extent of the 1994 and 2000 freezes was similar, with the two 1994 episodes covering slightly more area.

Table 1. Percentage of Total Brazilian Coffee Production by State (1995/96 - 1999/00 average). *From Foreign Agricultural Service/USDA*

Minas Gerais	51%
Espirito Santo	17%
Sao Paulo	12%
Parana	8%
Other	12%

- Chester Schmitt and Bob Stefanski

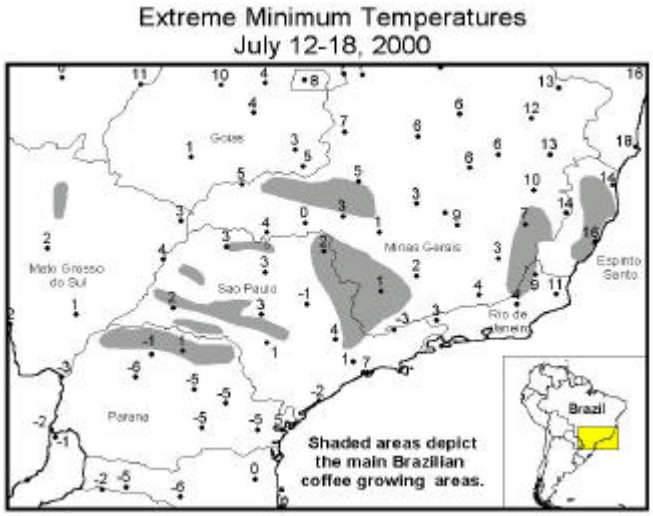

Figure 1.

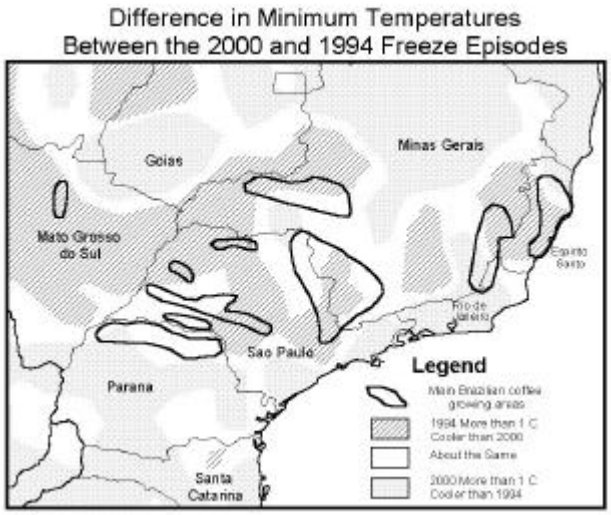

Figure 2.